7307

A.D. 1908. April 3. No. 7370.
SAWARD'S Complete Specification. (1 SHEET)

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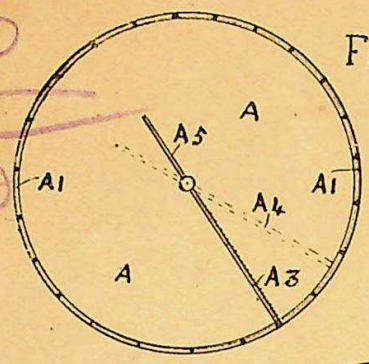
FIG. 1



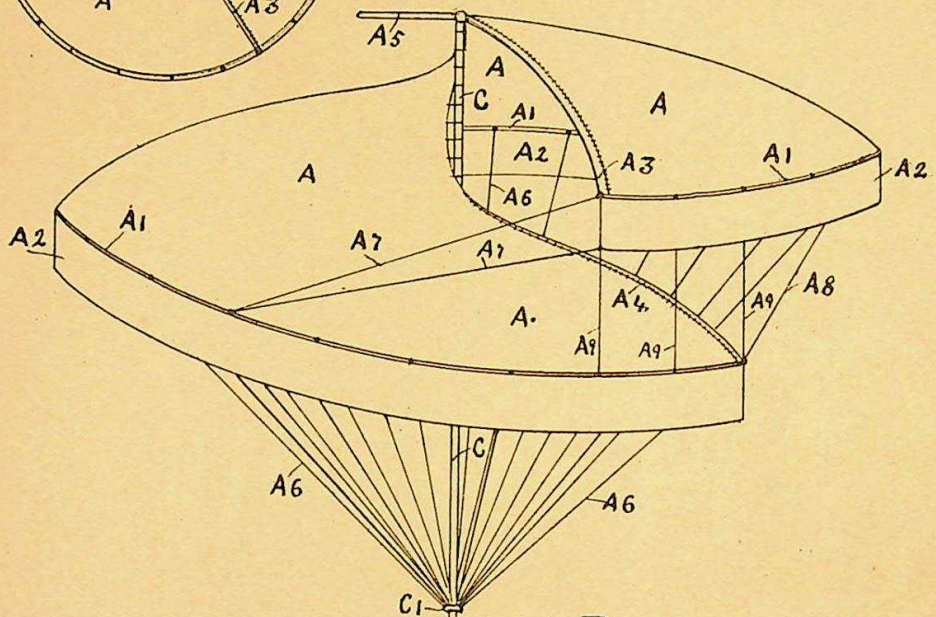
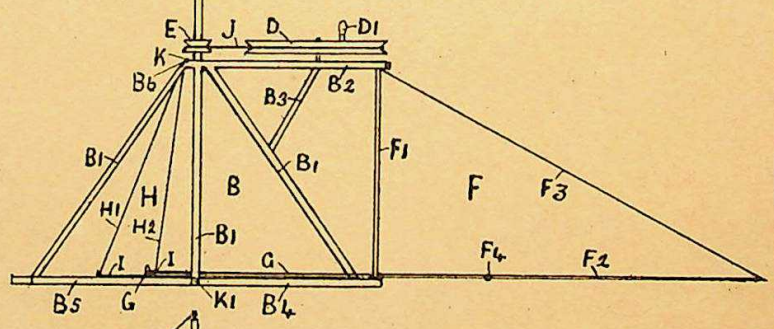


FIG. 2



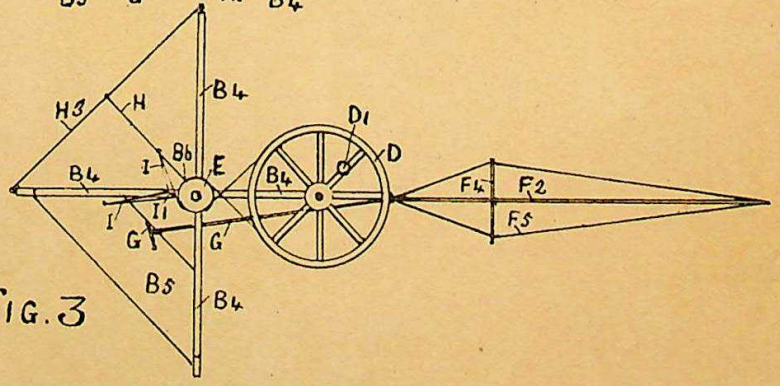


FIG. 3

Malby&Sons, Photo-Litho

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N° 7370 A.D. 1908

Duplicate.

Date of Application, 3rd Apr., 1908
(Patent of Addition to No. 8435, 11th Apr., 1907)
Complete Specification Left, 4th July, 1908
Complete Specification Accepted, 17th Dec., 1908

PROVISIONAL SPECIFICATION.

An Airship.

I, JOSIAH SAWARD 71 Mill Lane West Hampstead London N.W. Umbrella Maker, do hereby declare the nature of this invention to be as follows:—

This airship is an improvement, and consists of a large overhead circular spiral sail by which it is lifted, made of silk, sail cloth, metal sheet or any suitable material, fixed to the top of a shaft, the lower end of which is attached in two places by ball bearings to a light frame or car to support the driver. The shaft is to be fitted with two arms stretched the length of the radius of the sail to secure and carry the ends of the sail. The sail is to be stiffened on the outer edge by a rod tube or cane which forms the rim, this rim is secured by guys to a ring fixed to the shaft above the driver, the ends of the rim are to be fixed to the outer ends of the arms.

The shaft and sail is made to revolve by hand by means of a large and small cog or groove wheel with gut, hide, chain or band, which is turned by the driver by handles fixed on the top side of the large wheel, it may also be driven by motor. Any number of these airships are to be fixed together to form one ship.

This airship is to contain an helm which is to be controlled by the foot.

Dated this 3rd day of April 1908.

JOSIAH SAWARD.

COMPLETE SPECIFICATION.

An Airship.

I, JOSIAH SAWARD, 71 Mill Lane, West Hampstead, N.W. Umbrella Maker, or Manufacturer do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to airships of the type having helicoidal lifting surfaces and consists in improvements on the invention described in my Specification No. 8435 of 1907. According to this invention I provide an improved construction of helicoidal lifting surface in which a large overhead circular continuous spiral sail is used (which should be made of balloon fabric varnished, it may also be made of metal sheet as alumineum or magnalium, or any suitable material) fixed to the top of a shaft the lower end of which is attached in two places by ball-bearings to a light frame or car to support the driver. The shaft is to be fitted with two arms, one below the other or, nearly so, to secure and carry the ends of the sail, the sail is to be stiffened on the outer edge by a rod tube or stiff cane which forms the rim, this rim is secured by guys to a ring

fixed to the shaft above the driver. the ends of the rim are to be fixed to the outer ends of the arms. The spiral sail is to be fitted with a curtain hanging from the rim to confine the air, the sail may be used with or without the curtain. The car is to be fitted a small triangular sail to prevent the rotating of the car, a wire is to be stretched from two extreme points of the base frame of the car to secure this sail, another wire is to be fixed to the centre of this wire stretching to the top frame of the car, this is to form the top and outer edge of the sail, the lower and inside angle is to be fixed to a lever-crank which moves upon a pivot fixed upon the base frame of the car, this lever is to be controlled by the foot, or the sail may be fixed at the required angle to catch the blast from the spiral sail. The shaft and spiral sail is made to revolve by hand, by means of a large and small cog or groove wheels with gut, hide, chain, or band, which is turned by the driver by a handle fixed on the top side of the large wheel, it may also be driven by motor, if driven by motor a propeller should be used for horizontal motion. Any number of these airships are to be fixed together as to form one ship.

In all the figures like letters refer to like parts.

Fig 1 is a plan of spiral sail.

Fig 2 is an elevation.

Fig 3 is a part plan of car.

A is the large overhead circular spiral sail which may be any size, and should be made of silk or balloon fabric varnished, it is a circular sheet with an opening from circumference to centre, this opening forms the front and back of the sail, this sail is made with a round hole in the centre large enough to allow the inside edge to be fixed in a spiral manner round the shaft C between the arms A 3 and A 4 with rings or otherwise, the front and back ends of the sail are to be tied or otherwise fixed to the arms A 3 and A 4. The sail is to be fitted with a rim A 1 on the outer edge, which should be made of rod, tube, or stiff cane, tied or otherwise fixed to the sail A. The rim A 1 is to be fitted with a curtain A 2 hanging therefrom to confine the air, this curtain should be stiffened on the lower edge with cord or otherwise and varnished, and should be attached at intervals to the guys A 6 to prevent turning up. The sail A may be used with or without the curtain A 2. A 3 is the top arm brazed or otherwise fixed to the shaft C and should be made of steel with sharp front edge to cut the air. A 4 is the lower arm. A 5 is a balancing rod or blade fixed to the shaft C to balance the centrifugal force due to the member A 3, and so prevent oscillation. A 6 are the guys fixed from the rim A 1 to the shaft C by a ring C 1 A 7 are guys fixed from the top end of the sail A to the rim A 1. A 8 is a guy fixed from the outer end of the arm A 4, to the rim A 1. A 9 are guys fixed between the top and bottom of rim A 1 where they overlap, all the guys should be made of steel or magnalium wire, there may be any number. B, B 1, B 2, B 3 and B 4 is the car and should be made of steel or magnalium tube. B 2 is the arm to support the driving wheel D. B 3 is a support for the arm B 2. B 4 is the base frame. B 5 is the platform. C is the shaft to support and revolve the spiral sail A and should be made of steel tube. D is the propelling wheel. D 1 is the handle upon its top side. E is the wheel fixed to the shaft C by which it is rotated. F is the helm which is a triangular sail stretched upon wire and tube and should be made of silk varnished. F 1 is an upright tube which forms the hinge of the helm F. F 2 is a horizontal tube which forms the bottom of the helm sail. F 3 is wire. F 4 is a crossbar with wires F 5 to stiffen the helm. G is the tiller fixed to the bottom of the helm at F 1. H is a triangular sail to prevent the car rotating. H 3 is a wire stretched from two extreme points of the base frame B 4. H 1 is the outer edge of the sail H, which is fixed at the bottom to the centre of the wire H 3 and at the top to the car at B 6, H 2 is the inside edge of the sail H which is fixed at the top at B 6 and at the bottom to the end of a lever-crank I which moves upon a pivot I 1 and is turned by the foot and so alter the angle of

the sail H. or the sail H may be fixed at the required angle to receive the down blast from the spiral sail A and so prevent the car rotating. I is a lever-crank to shift the angle of the sail H it is fixed by a pivot to the base frame B 4. J is gut, hide, or chain to transmit the power from the propelling wheel D to the wheel E. K is the ball-bearings at the top of the car (not shown) a free-wheel clutch should be used for this bearing as it will prevent the spiral sail from running back and so prevent the too rapid descent. K 1 is the bottom ball-bearings (not shown) attached to the shaft C and to the base-frame B 4 of the car. Any material may be substituted for any part of this airship.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1 This airship with large overhead continuous circular spiral sail by which it is lifted.

2 In this airship a curtain hanging from the spiral sail to confine the air.

3 In the airship claimed in Claim 1 a triangular sail fixed to the car to prevent it rotating.

4 In the airship claimed in Claim 1 a balancing rod or blade fixed to the shaft to prevent oscillation.

Dated this 4th day of July 1908.

JOSIAH SAWARD.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1908.